REMARKS

Applicants request favorable reconsideration of this application in view of the foregoing amendments and the following remarks. Of claims 1-13 that were pending in the application, claims 1-4, 6, 8, 9, 12, and 13 were rejected in the Office Action.

Applicants greatly appreciate the indication of allowable subject matter in claims 5, 7, 10, and 11. In response to this positive indication, claims 5, 7, and 10 have been amended to be in independent claim format and to address various issues of form. Accordingly, claims 5, 7, and 10, which have not been narrowed in scope, should be in condition for allowance. In addition, as claim 11 has been amended to depend from claim 10 and as new claim 14 has been added to depend from claim 5, claims 11 and 14 should also be in condition for allowance.

In addition to the foregoing, Applicants have also: (a) amended claims 1, 3, 4, 6, 8, 9, 12, and 13, without adding new matter; (b) added another new claim 15, which depends from claim 12; and (c) canceled claim 2, without prejudice or disclaimer. Accordingly, claims 1 and 3-15 are respectfully presented for further consideration.

Rejections of Claims 1-13

The Examiner rejected: (a) claims 1-3 under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 4,341,346 ("Simpson"); (b) claims 4, 6, and 8 under 35 U.S.C. § 103(a) as allegedly being obvious when considering Simpson in view of U.S. Patent No. 4,266,604 ("Sumikawa"); and (c) claims 9, 12, and 13 under 35 U.S.C. § 103(a) as allegedly being obvious when considering Simpson in view of Sumikawa and further in view of U.S. Patent No. 6,024,086 ("Rich"). Preliminarily, the rejection of claim 2 is moot due to the cancellation thereof, without prejudice or disclaimer. Accordingly, these rejections will be addressed and respectfully traversed with respect to claims 1, 3, 4, 6, 8, 9, 12, and 13.

As amended, claim 1 (*i.e.*, the claim from which claims 3, 4, 6, 8, 9, 12, and 13 depend) recites a heat exchanger that includes among other possible things (italic emphasis added):

> a header pipe including a fluid circulation hole inside thereof;
> an inlet manifold including an inlet hole inside thereof;
> an outlet manifold including an outlet hole inside thereof;
> a first coupling member including a first coupling hole inside thereof; and
> a second coupling member including a second coupling hole inside thereof;
> wherein a first end of the first coupling member is connected to a first end of the header pipe and a second end of the first coupling member is connected to the inlet manifold,

> wherein a first end of the second coupling member is connected to a second end of the header pipe and a second end of second coupling member is connected to the outlet manifold,
>
> wherein in the first coupling member, a first end of the first coupling hole is opened to a first end of the fluid circulation hole and a second end of the first coupling hole is opened to the inlet hole,
>
> wherein in the second coupling member, a first end of the second coupling hole is opened to a second end of the fluid circulation hole and a second end of the second coupling hole is opened to the outlet hole,
>
> *wherein a first pipe side connection hole, which has a diameter that is larger than that of the first end of the fluid circulation hole and which is for housing the first end of the first coupling member, is formed on the first end of the header pipe, and*
>
> *wherein a second pipe side connection hole, which has a diameter that is larger than that of the second end of the fluid circulation hole and which is for housing the first end of the second coupling member, is formed on second end of the header pipe.*

As hereafter explained in detail, Simpson, Sumikawa, and Rich (standing alone or combined) fail to teach or suggest such a heat exchanger.

Simpson: Simpson teaches: (a) a waterway 12, which the Examiner analogizes to the above-recited header pipe; (b) a fluid circulation hole (unnumbered) in the header pipe (*i.e.*, waterway 12); (c) a core 25, which the Examiner analogizes to the above-recited inlet manifold; (d) an outlet manifold (not shown – see col. 3, lines 30-32); (e) a chamfered barrel nipple 34, which the Examiner analogizes to the above-recited first coupling member (as it is connected to the inlet manifold (*i.e.*, core 25) and to the header pipe (*i.e.*, waterway 12)); and (f) a second coupling member (not shown – see col. 3, lines 30-32), which is connected to the outlet manifold and the header pipe. However, although Simpson teaches holes in the ends of the header pipe (*i.e.*, waterway 12) that respectively receive the coupling members (*i.e.*, chamfered barrel nipples 34), the holes do not have diameters that are larger than that of the end of the fluid circulation hole (*i.e.*, unnumbered space in waterway 12). For at least this reason, Simpson standing alone can not be used to reject claim 1 or any claim dependent thereon. Moreover, for the following reasons, neither Sumikawa nor Rich cures the deficiencies of Simpson.

Sumikawa: Although Sumikawa teaches gaskets 13, which receive tubes 11 and which have large diameter portions 13b and small diameter portions 13c (Figs. 2, 3), the gaskets 13 fail to satisfy each of the above-italicized limitations of claim 1 for at least the two following reasons. First, the gaskets 13 are not "formed on the [first/second ends] of the header pipe" (*i.e.*, tubes 11). Second, as Sumikawa fails to teach or suggest coupling

members, gaskets 13 also fail to house "the first end of [a] coupling member." Accordingly, for at least these reasons, Sumikawa fails to cure Simpson's deficiencies.

Rich: As shown in Fig. 6, Rich teaches a header pipe (*i.e.* tube 1A), an inlet manifold (*i.e.,* header 12), and a coupling member (*i.e.,* adapter 6). Rich, however, fails to satisfy each of the above-italicized limitations of claim 1. Specifically, although the end of the header pipe (*i.e.,* tube 1A) contains a hole that receives the coupling member (*i.e.,* adapter 6), contrary to the above-italicized limitations of claim 1, the diameter of the hole is not "larger than that of the [] end of the fluid circulation hole." Rather, the diameter of the portion of the header pipe (*i.e.*, tube 1A) that receives the coupling member (*i.e.,* adapter 6) is less than or equal to the end of the fluid circulation hole of the header pipe (*i.e.,* tube 1A). Moreover, to the extent that one may assert that an unnumbered portion (in the vicinity of label 8 in Fig. 6) of the header pipe (*i.e.,* tube 1A) has a diameter that is greater than that of the end of the fluid circulation hole of the header pipe (*i.e.,* tube 1A), Applicants respectfully note that such unnumbered portion is an outwardly projection "bulge" rather than a connection "hole".

For at least the aforementioned reasons, it is clear that none of Simpson, Sumikawa, and Rich teaches or suggests at least the above-italicized limitation of claim 1. Accordingly, Simpson, Sumikawa, and Rich (standing alone or combined) can not be used to reject claim 1, or any claim dependent thereon, under 35 U.S.C. §§ 102(b), 103(a). Moreover, as claims 3, 4, 6, 8, 9, 12, and 13 depend from claim 1, each of these dependent claims is also allowable over Simpson, Sumikawa, and Rich, without regard to the other patentable limitations recited therein. In light of the foregoing, a withdrawal of each of the various rejections of claims 1, 3, 4, 6, 8, 9, 12, and 13 is both warranted and earnestly solicited.

CONCLUSION

For the aforementioned reasons, claims 1 and 3-15 are now in condition for allowance. A Notice of Allowance at an early date is respectfully requested. The Examiner is invited to contact the undersigned if such communication would expedite the prosecution of the application.

Respectfully submitted,

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